CLAIMS

We claim:

1. A method of controlling rate distortion in a video compression and encoding system, said method comprising:

selecting a distortion value D near a desired distortion value;

determining a quantizer value Q using said distortion value D;

calculating a Lagrange multiplier lambda using said quantizer value Q; and

encoding a pixelblock using said Lagrange multiplier lambda and said quantizer value Q.

2. The method as claimed in claim 1, said method further comprising:

increasing said Lagrange multiplier lambda when a buffer exceeds an overflow threshold value and increasing said quantizer value Q if said Lagrange multiplier lambda exceeds a maximum lambda threshold; and

decreasing said Lagrange multiplier lambda when a buffer falls below an undererflow threshold value and decreasing said quantizer value Q if said Lagrange multiplier lambda falls below a minimum lambda threshold.

3. The method as claimed in claim 2, said method further comprising:

recalculating said Lagrange multiplier lambda if said quantizer value Q is adjusted.

4. The method as claimed in claim 2, said method further comprising wherein said Lagrange multiplier lambda is increased or decreased by an amount dependent upon said quantizer value Q.

5. The method as claimed in claim 1, said method further comprising:

calculating a visual mask value M; and

increasing said Lagrange multiplier lambda when said visual mask value M times said Lagrange multiplier lambda is less than a maximum threshold for said Lagrange multiplier lambda.

6. The method as claimed in claim 5 wherein said maximum threshold for said Lagrange multiplier lambda is dependent upon said quantizer value Q.

7. The method as claimed in claim 5, said method further comprising:

increasing said Lagrange multiplier lambda when a buffer exceeds an overflow threshold value and increasing said quantizer value Q if said Lagrange multiplier lambda exceeds a maximum lambda threshold; and

decreasing said Lagrange multiplier lambda when a buffer falls below an undererflow threshold value and decreasing said quantizer value Q if said Lagrange multiplier lambda falls below a minimum lambda threshold.

8. The method as claimed in claim 7, said method further comprising:

recalculating said Lagrange multiplier lambda if said quantizer value Q is adjusted.

9. A computer-readable medium, said computer-readable medium containing a set of computer instructions for implementing a method of controlling rate distortion in a video compression and encoding system with the following steps:

selecting a distortion value D near a desired distortion value;

determining a quantizer value Q using said distortion value D;

calculating a Lagrange multiplier lambda using said quantizer value Q; and

encoding a pixelblock using said Lagrange multiplier lambda and said quantizer value Q.

10. The computer-readable medium as claimed in claim 9 wherein said set of computer instructions further implement the steps of:

increasing said Lagrange multiplier lambda when a buffer exceeds an overflow threshold value and increasing said quantizer value Q if said Lagrange multiplier lambda exceeds a maximum lambda threshold; and

decreasing said Lagrange multiplier lambda when a buffer falls below an undererflow threshold value and decreasing said quantizer value Q if said Lagrange multiplier lambda falls below a minimum lambda threshold.

11. The computer-readable medium as claimed in claim 10 wherein said set of computer instructions further implement the steps of:

recalculating said Lagrange multiplier lambda if said quantizer value Q is adjusted.

12. The computer-readable medium as claimed in claim 10 wherein said Lagrange multiplier lambda is increased or decreased by an amount dependent upon said quantizer value Q.

13. The computer-readable medium as claimed in claim 9 wherein said set of computer instructions further implement the steps of:

calculating a visual mask value M; and

increasing said Lagrange multiplier lambda when said visual mask value M times said Lagrange multiplier lambda is less than a maximum threshold for said Lagrange multiplier lambda.

14. The computer-readable medium as claimed in claim 13 wherein said maximum threshold for said Lagrange multiplier lambda is dependent upon said quantizer value Q.

15. The computer-readable medium as claimed in claim 13 wherein said set of computer instructions further implement the steps of:

increasing said Lagrange multiplier lambda when a buffer exceeds an overflow threshold value and increasing said quantizer value Q if said Lagrange multiplier lambda exceeds a maximum lambda threshold; and

decreasing said Lagrange multiplier lambda when a buffer falls below an undererflow threshold value and decreasing said quantizer value Q if said Lagrange multiplier lambda falls below a minimum lambda threshold.

16. The computer-readable medium as claimed in claim 15 wherein said set of computer instructions further implement the steps of:

recalculating said Lagrange multiplier lambda if said quantizer value Q is adjusted.